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Docket No.: M0025.0340/P340
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Yao-Chun Shen et al.

Application No.: 10/550,620

Confirmation No.: 4660

Filed: September 26, 2005

Art Unit: N/A

For: TERAHERTZ RADIATION SOURCES
AND METHODS

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S.

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Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. M0025.0340/P340.

Dated: June 30, 2006

Respectfully submitted,

By 

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PTO/SB/08a/b (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

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Substitute for form 1449A/B/PTO		Complete if Known				
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	10/550,620-Conf. #4660			
		Filing Date	September 26, 2005			
		First Named Inventor	Yao-Chun Shen			
		Art Unit	N/A			
		Examiner Name	Not Yet Assigned			
Sheet 1 of 2	Attorney Docket Number	M0025.0340/P340				
U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
		2001/0038074 A1	11-2001	Zhang, et al.		
		4,972,069	11-1990	Grischkowsky		
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		EP 0 828 143 A2	03-11-1998	Lucent Technologies Inc.		
		WO 01/38929 A1	05-31-2001	Rudd, et al.		
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language translation is attached.</p>						
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				T ²
		Nuss et al., "Terahertz Time-Domain Spectroscopy", Millimeter and Submillimeter Wave Spectroscopy of Solids, ed. G.Gruner, Berlin Springer, pp. 7-50, (1998)				
		Beard et al., "Terahertz Spectroscopy", J. Phys. Chem. B., Vol. 106, pp. 7146-7159, (2002)				
		Zhang, "Terahertz wave Imaging: Horizons And Hurdles", Phys. Med. Biol., Vol. 47, pp. 3667-3677, (2002)				
		Zhang et al., "Optoelectronic Measurement Of Semiconductor Surfaces And Interfaces With Femtosecond Optics", J. Appl. Phys., Vol. 71, No. 1, pp. 326-338, (1992).				
		Dekorsy et al., "THz Electromagnetic Emission By Coherent Infrared-Active Phonons", Phys. Rev. B, Vol. 53, No. 7, pp. 4005-4014, (1996)				
		Kono, et al., "Temperature Dependence Of Terahertz Radiation for n-type InSb and n-type InAs Surfaces", Appl. Phys. B., Vol. 71, pp. 901-904, (2000)				
		Davies et al., "The Development Of Terahertz Sources And Their Applications", Phys. Med. Biol., Vol. 47, pp. 3679-3680, (2002)				
		Ma et al., "Determination of Ratios Between Nonlinear-Optical Coefficients By Using Subpicosecond Optical Rectification", J. Opt. Soc. Am. B, Vol. 10, No. 7, pp. 1175-1179, (1993)				
		Saeta et al., "Short Terahertz Pulses From Semiconductor Surfaces: The Importance Of Bulk Difference-Frequency Mixing", Appl. Phys. Lett., Vol. 63, No. 25, pp. 3483-3484, (1993)				
		Joffre et al., "Femtosecond Diffracting Fourier-Transform Infrared Interferometer", Optics Letters, Vol. 21, No. 13, pp. 964-966, (1996)				
		Wu et al., "Free-Space Electro-Optics Sampling Of Mid-Infrared Pulses", Appl. Phys. Lett., Vol. 71, No. 10, pp. 1285-1286, (1997)				
		Darrow et al., "Saturation Properties of Large-Aperture Photoconducting Antennas", IEEE Jour. Quantum Elec., Vol. 28, No. 6, pp. 1607-1616, (1992)				
		Leitenstorfer, et al., "Detectors and Sources For Ultrabroadband Electro-Optic Sampling: Experiment And Theory", Appl. Phys. Lett., Vol. 74, No. 11, pp. 1516-1518, (1999)				

Examiner Signature	/Meenakshi Sahu/	Date Considered	03/13/2008
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Sheet	2	of	2	Attorney Docket Number	M0025.0340/P340
		Auston et al., "Picosecond Photoconducting Hertzian Dipoles", <u>Appl. Phys. Lett.</u> , Vol. 45, No. 3, (1984)			
		Grischkowsky, "Optoelectronic Characterization of Transmission Lines and Waveguides by Terahertz Time-Domain Spectroscopy", <u>IEEE J. Sel. Topics Quantum Electron.</u> , Vol. 6, No. 6, pp. 1122-1135, (2000)			
		Holzman et al., "Recombination-Independent Photogeneration Of Ultrashort Electrical Pulses", <u>App. Phys. Lett.</u> , Vol. 76, No. 2, pp. 134-136, (2000)			
		Holzman et al., "Ultrafast Photoconductive Self-Switching of Subpicosecond Electrical Pulses", <u>IEEE J. Quantum Electron.</u> , Vol. 36, No. 2, pp. 130-136, (2000)			
		Krokel et al., "Subpicosecond Electrical Pulse Generation Using Photoconductive Switches With Long Carrier Lifetimes", <u>Appl. Phys. Lett.</u> , Vol. 54, No. 11, pp.1046-1047, (1989)			
		Leitenstorfer et al., "Femtosecond High-Field Transport in Compound Semiconductors", <u>Physical Review B</u> , Vol. 61, No. 24, pp. 16642-16648, (2001)			
		Huber et al., "Generation and Field-Resolved Detection Of Femtosecond Electromagnetic Pulses Tunable Up To 41 THz", <u>App. Phys. Lett.</u> , Vol. 76, No. 22, pp. 3191-3193, (2000)			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	/Meenakshi Sahu/	Date Considered	03/13/2008
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DSMDB-2107793v.01

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.S./